SEQUENCE LISTING

<110> Novartis Forschungsstiftung, Zweigniederlassung Friedrich Miescher Institute for Biomedical Research

<120> Tenascin-W Compositions and Uses thereof

<130> 1-32411/P1/FMI

<140> WO 03/03150

<141> 2003 03 26

<150> GB0207224.7

<151> 2002 03 27

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tct gtg ctc ctg gtg gct tcg gcc cca gcc act cca gag tct ccc ggc       96
Ser Val Leu Leu Val Ala Ser Ala Pro Ala Thr Pro Glu Ser Pro Gly
            20                  25                  30

tgc agc aac aaa gag caa cag gtc act gtt agc cac acc tac aag att      144
Cys Ser Asn Lys Glu Gln Gln Val Thr Val Ser His Thr Tyr Lys Ile
        35                  40                  45

gac gtg ccc aag tct gct ctg gtt caa gta gag acc gac cca cag tca      192
Asp Val Pro Lys Ser Ala Leu Val Gln Val Glu Thr Asp Pro Gln Ser
    50                  55                  60

ctc agc gat gat ggg aca tca ctc ttg gct ccc ggg gag gat ggg gag      240
Leu Ser Asp Asp Gly Thr Ser Leu Leu Ala Pro Gly Glu Asp Gly Glu
65                  70                  75                  80

gag cag aac att atc ttc agg cac aac atc cgt ctt cag aca ccg cag      288
Glu Gln Asn Ile Ile Phe Arg His Asn Ile Arg Leu Gln Thr Pro Gln
                85                  90                  95

aag aat tgc gac ctg gca gac agt gtc cag gac ctg cta gcc cgg atg      336
Lys Asn Cys Asp Leu Ala Asp Ser Val Gln Asp Leu Leu Ala Arg Met
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Lys Lys Leu Glu Glu Glu Met Ala Glu Leu Lys Glu Gln Cys Asn Thr
        115                 120                 125

aac cgc tgc tgc cag ggg gct gct gat ctg agc cgt cac tgc agt ggc      432
Asn Arg Cys Cys Gln Gly Ala Ala Asp Leu Ser Arg His Cys Ser Gly
    130                 135                 140

cac ggg acc ttc ctc cct gag acc tgc agc tgc cac tgt gac cag ggc      480
His Gly Thr Phe Leu Pro Glu Thr Cys Ser Cys His Cys Asp Gln Gly
145                 150                 155                 160

tgg gag ggc gca gac tgt gat cag ccc acc tgt cct ggg gct tgc aac      528
Trp Glu Gly Ala Asp Cys Asp Gln Pro Thr Cys Pro Gly Ala Cys Asn
                165                 170                 175

ggc cac ggg cgc tgt gtg gat ggg cag tgc gtg tgt gac gcg ccc tat      576
Gly His Gly Arg Cys Val Asp Gly Gln Cys Val Cys Asp Ala Pro Tyr
            180                 185                 190

gtg ggg gtc gac tgc gcc tac gcc gcc tgt ccc cag gac tgc agt ggg      624
Val Gly Val Asp Cys Ala Tyr Ala Ala Cys Pro Gln Asp Cys Ser Gly
        195                 200                 205

cat ggc gtg tgc gtg cag ggt gtc tgc cag tgc cac gag gac ttc aca      672
His Gly Val Cys Val Gln Gly Val Cys Gln Cys His Glu Asp Phe Thr
    210                 215                 220

gca gag gac tgc agc gag cag cgc tgt cct ggc gac tgt agt ggc aat      720
Ala Glu Asp Cys Ser Glu Gln Arg Cys Pro Gly Asp Cys Ser Gly Asn
225                 230                 235                 240

ggt ttc tgt gac act ggc gag tgt tac tgt gag atg ggc ttt act ggc      768
Gly Phe Cys Asp Thr Gly Glu Cys Tyr Cys Glu Met Gly Phe Thr Gly
                245                 250                 255

ccc gac tgt tcc cag gtg gtg gct cct cag ggc ctg cag ttg ctc aag      816
Pro Asp Cys Ser Gln Val Val Ala Pro Gln Gly Leu Gln Leu Leu Lys
            260                 265                 270

agc acg gag aac tct ctg ctg gtg agt tgg gag ccc tcc agt gag gta      864
Ser Thr Glu Asn Ser Leu Leu Val Ser Trp Glu Pro Ser Ser Glu Val
        275                 280                 285

gac tac tac ctg ctc agc tac tac ccc ctg ggg aag gag caa gct aca      912
Asp Tyr Tyr Leu Leu Ser Tyr Tyr Pro Leu Gly Lys Glu Gln Ala Thr
    290                 295                 300

aaa cag gtc cgg gta ccc aag gag cag cac acc tat gac atc acc ggc      960
Lys Gln Val Arg Val Pro Lys Glu Gln His Thr Tyr Asp Ile Thr Gly
305                 310                 315                 320

ttg ctg cct gga acc aag tac ata gtc acc ctg cgc aac gtg aag aaa     1008
Leu Leu Pro Gly Thr Lys Tyr Ile Val Thr Leu Arg Asn Val Lys Lys
                325                 330                 335

gac att tcc agc agc cct cag cat cta ctt gcc acc aca gac ctt gct     1056
Asp Ile Ser Ser Ser Pro Gln His Leu Leu Ala Thr Thr Asp Leu Ala
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gtg ctt ggc act gcc tgg gta aat gaa gag act gag aca tcc ctc gat     1104
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Val Leu Gly Thr Ala Trp Val Asn Glu Glu Thr Glu Thr Ser Leu Asp
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Val Glu Trp Glu Asn Pro Leu Thr Glu Val Asp Tyr Tyr Lys Leu Arg
    370                 375                 380

tat ggc ccc tta aca ggg cag gag gtg aca gag gtc act gtg ccc aag     1200
Tyr Gly Pro Leu Thr Gly Gln Glu Val Thr Glu Val Thr Val Pro Lys
385                 390                 395                 400

agc cgt gat ccc aag agc aga tat gac atc act ggt ctg cag cct gga     1248
Ser Arg Asp Pro Lys Ser Arg Tyr Asp Ile Thr Gly Leu Gln Pro Gly
                405                 410                 415

acg gaa tat aaa atc aca gtt gtg ccc atc cga ggt gat ctg gag gga     1296
Thr Glu Tyr Lys Ile Thr Val Val Pro Ile Arg Gly Asp Leu Glu Gly
            420                 425                 430

aag ccg att ctc ctg aat ggc agg aca gaa att gat gga cca acc aat     1344
Lys Pro Ile Leu Leu Asn Gly Arg Thr Glu Ile Asp Gly Pro Thr Asn
        435                 440                 445

gtg gtc aca aat cag gtg aca gaa gac aca gca tct gtt tcc tgg gat     1392
Val Val Thr Asn Gln Val Thr Glu Asp Thr Ala Ser Val Ser Trp Asp
    450                 455                 460

cca gtg agg gct gac ata gac aag tat gtg gtg cgc tat atc gcc ccc     1440
Pro Val Arg Ala Asp Ile Asp Lys Tyr Val Val Arg Tyr Ile Ala Pro
465                 470                 475                 480

gat ggg gag acc aag gag aag gca gta cca aag gac cag agc agc acc     1488
Asp Gly Glu Thr Lys Glu Lys Ala Val Pro Lys Asp Gln Ser Ser Thr
                485                 490                 495

gtt ctc aca ggc ctg aag cca gga gag gcc tac aaa gtc ttt gtg tgg     1536
Val Leu Thr Gly Leu Lys Pro Gly Glu Ala Tyr Lys Val Phe Val Trp
            500                 505                 510

gct gag agg ggc aac caa ggc agc aag aaa gca gac acc aag gcc ctc     1584
Ala Glu Arg Gly Asn Gln Gly Ser Lys Lys Ala Asp Thr Lys Ala Leu
        515                 520                 525

aca gaa att gac agt cca gaa aac ctg gtg act gac cgg gtg aca gag     1632
Thr Glu Ile Asp Ser Pro Glu Asn Leu Val Thr Asp Arg Val Thr Glu
    530                 535                 540

aac agc ctc tct gtc tcg tgg gac cca gtg gag gct gac atc gac agg     1680
Asn Ser Leu Ser Val Ser Trp Asp Pro Val Glu Ala Asp Ile Asp Arg
545                 550                 555                 560

tat gtg gta agc tac act tcc gtg gat gga gag acg aag cag gtt cca     1728
Tyr Val Val Ser Tyr Thr Ser Val Asp Gly Glu Thr Lys Gln Val Pro
                565                 570                 575

gtg aag aag gac cag agg agc acc gtc ctc acc ggc ctg agt ccc ggt     1776
Val Lys Lys Asp Gln Arg Ser Thr Val Leu Thr Gly Leu Ser Pro Gly
            580                 585                 590

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Val Glu Tyr Lys Val Tyr Val Trp Ala Glu Lys Gly Asp Arg Glu Ser
        595                 600                 605
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Lys Lys Ala Asn Thr Lys Ala Pro Thr Asp Ile Asp Ser Pro Lys Asn
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ttg gta act gac cag gtg aca gag aac act ctc agt gtc tcc tgg gac      1920
Leu Val Thr Asp Gln Val Thr Glu Asn Thr Leu Ser Val Ser Trp Asp
625                 630                 635                 640

cct gtt cag gcc aac att gac agg tat atg gtg agc tac acc tct gcc      1968
Pro Val Gln Ala Asn Ile Asp Arg Tyr Met Val Ser Tyr Thr Ser Ala
                645                 650                 655

gat gga gag aca aga gag gtc cca gtg cct aag gag aag agc agt acc      2016
Asp Gly Glu Thr Arg Glu Val Pro Val Pro Lys Glu Lys Ser Ser Thr
            660                 665                 670

gtc ctg act ggc ctg agg cca ggt gtg gag tac aag gtc cat gtg tgg      2064
Val Leu Thr Gly Leu Arg Pro Gly Val Glu Tyr Lys Val His Val Trp
        675                 680                 685

gcc cag aag ggg acc cag gag agc aga aag gcc aac acc aag gcc ccc      2112
Ala Gln Lys Gly Thr Gln Glu Ser Arg Lys Ala Asn Thr Lys Ala Pro
    690                 695                 700

aca gat att gat ggc ccc aaa aac ctg gtg act gac cag gtg acc gag      2160
Thr Asp Ile Asp Gly Pro Lys Asn Leu Val Thr Asp Gln Val Thr Glu
705                 710                 715                 720

acc act ctt agt gtc tcc tgg gac cca gtg gag gct gac att gat agg      2208
Thr Thr Leu Ser Val Ser Trp Asp Pro Val Glu Ala Asp Ile Asp Arg
                725                 730                 735

tac atg gtt cgc tac acg tct cct gat gga gag acc aag gag gtg cct      2256
Tyr Met Val Arg Tyr Thr Ser Pro Asp Gly Glu Thr Lys Glu Val Pro
            740                 745                 750

gtg tca aag gat aag agc agc aca gtc ctg agg ggc ctg agg cca ggt      2304
Val Ser Lys Asp Lys Ser Ser Thr Val Leu Arg Gly Leu Arg Pro Gly
        755                 760                 765

gtg gag tac aag gtg gat gta tgg gcc cag aag ggg gcc cag gac agc      2352
Val Glu Tyr Lys Val Asp Val Trp Ala Gln Lys Gly Ala Gln Asp Ser
    770                 775                 780

cgg aag gcc aac acc aag gcc ccc aca gat att gac agc cct aaa aac      2400
Arg Lys Ala Asn Thr Lys Ala Pro Thr Asp Ile Asp Ser Pro Lys Asn
785                 790                 795                 800

cta gtg act gag cag gtg gca gag agc act gcc acc gtg tcc tgg gac      2448
Leu Val Thr Glu Gln Val Ala Glu Ser Thr Ala Thr Val Ser Trp Asp
                805                 810                 815

cca gta gag gct gac atc gac agg tat gtg gtg cgc tac acc tct gct      2496
Pro Val Glu Ala Asp Ile Asp Arg Tyr Val Val Arg Tyr Thr Ser Ala
            820                 825                 830

gat gga gag acc agg gag att cca gtg agg aag gag aag agc agc act      2544
Asp Gly Glu Thr Arg Glu Ile Pro Val Arg Lys Glu Lys Ser Ser Thr
        835                 840                 845

gtc ctc aca ggc ctg aga ccg ggt gtg gag tac acg gtc caa gtg tgg      2592
Val Leu Thr Gly Leu Arg Pro Gly Val Glu Tyr Thr Val Gln Val Trp
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gct cag aag ggg gcc cgg gag agc aag aag gcc aaa acc aag gcc ccc     2640
Ala Gln Lys Gly Ala Arg Glu Ser Lys Lys Ala Lys Thr Lys Ala Pro
865                 870                 875                 880

aca gaa att gac agc ccc aag aac ttg gtg acc aac cga gtg aca gaa     2688
Thr Glu Ile Asp Ser Pro Lys Asn Leu Val Thr Asn Arg Val Thr Glu
                885                 890                 895

aat aca gcc acc atc tcc tgg gac cca gtg cga gcc aac att gac agg     2736
Asn Thr Ala Thr Ile Ser Trp Asp Pro Val Arg Ala Asn Ile Asp Arg
            900                 905                 910

tac atg gtt cgc tac acc tct gcg gat gga gag act aag gag att cca     2784
Tyr Met Val Arg Tyr Thr Ser Ala Asp Gly Glu Thr Lys Glu Ile Pro
        915                 920                 925

gtg tca aag gat cag agt aac acc atc ctg aca ggc ctg aaa cca ggc     2832
Val Ser Lys Asp Gln Ser Asn Thr Ile Leu Thr Gly Leu Lys Pro Gly
    930                 935                 940

atg gaa tat acc att cat gtg tgg gcc cag aag ggg gcc cgg gag agc     2880
Met Glu Tyr Thr Ile His Val Trp Ala Gln Lys Gly Ala Arg Glu Ser
945                 950                 955                 960

aag aag gct gat acc aag gcc cta aca gaa att gac cct ccc aga aat     2928
Lys Lys Ala Asp Thr Lys Ala Leu Thr Glu Ile Asp Pro Pro Arg Asn
                965                 970                 975

ctc cgt ccg ttc ggg gta aca cat tct ggt ggg gtt ttg acc tgg ttg     2976
Leu Arg Pro Phe Gly Val Thr His Ser Gly Gly Val Leu Thr Trp Leu
            980                 985                 990

ccc cca tct gct caa att gat ggc  tac att ttg acc tac  cag ttc cca   3024
Pro Pro Ser Ala Gln Ile Asp Gly  Tyr Ile Leu Thr Tyr  Gln Phe Pro
        995                 1000                1005

aat ggc  acc gtg aag ggg gtg  gag ctc cca aga ggc  cag cag aga      3069
Asn Gly  Thr Val Lys Gly Val  Glu Leu Pro Arg Gly  Gln Gln Arg
    1010                1015                1020

ttt gaa  ttg caa gac ctg gaa  cag ggt gtc acc tat  cct gtt tcc      3114
Phe Glu  Leu Gln Asp Leu Glu  Gln Gly Val Thr Tyr  Pro Val Ser
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ttg gtt  gcc ttc aaa ggt aat  cag cgg agc cgg act  gtg tct acc      3159
Leu Val  Ala Phe Lys Gly Asn  Gln Arg Ser Arg Thr  Val Ser Thr
    1040                1045                1050

acc ctt  tct aca gtg gat gct  cgc ttt cca cac ccc  tca gac tgc      3204
Thr Leu  Ser Thr Val Asp Ala  Arg Phe Pro His Pro  Ser Asp Cys
    1055                1060                1065

agt caa  gtt cag cag aac acc  aac gct gcc agt ggg  ctc tac acc      3249
Ser Gln  Val Gln Gln Asn Thr  Asn Ala Ala Ser Gly  Leu Tyr Thr
    1070                1075                1080

atc tac  ctc aat ggt gat gcc  agc cgg ccc atg cag  gtg tac tgc      3294
Ile Tyr  Leu Asn Gly Asp Ala  Ser Arg Pro Met Gln  Val Tyr Cys
    1085                1090                1095

gac atg  gac act gac gga ggc  ggc tgg att gtc ttc  cag aga cgg      3339
Asp Met  Asp Thr Asp Gly Gly  Gly Trp Ile Val Phe  Gln Arg Arg
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Asn Thr  Gly Gln Leu Asp Phe  Phe Lys Arg Trp Arg  Ser Tyr Val
    1115                1120                1125

gaa ggt  ttt ggg gac ccc atg  aag gag ttc tgg ctt  gga ctt gat      3429
Glu Gly  Phe Gly Asp Pro Met  Lys Glu Phe Trp Leu  Gly Leu Asp
    1130                1135                1140

aaa cta  cat aat ctc acc act  ggc acc acc act cgg  tat gag gtg      3474
Lys Leu  His Asn Leu Thr Thr  Gly Thr Thr Thr Arg  Tyr Glu Val
    1145                1150                1155

agg gca  gac tta cag act ttc  aat gaa tct gcc tac  gct gta tat      3519
Arg Ala  Asp Leu Gln Thr Phe  Asn Glu Ser Ala Tyr  Ala Val Tyr
    1160                1165                1170

gat ttc  ttc caa gtg gca tcc  agc aaa gag cgg tac  aag ctg tcg      3564
Asp Phe  Phe Gln Val Ala Ser  Ser Lys Glu Arg Tyr  Lys Leu Ser
    1175                1180                1185

gtt ggg  aaa tac aga ggc aca  gcc ggg gat gct ctc  acc tac cac      3609
Val Gly  Lys Tyr Arg Gly Thr  Ala Gly Asp Ala Leu  Thr Tyr His
    1190                1195                1200

aat gga  tgg aag ttc acg act  ttt gac aga gac agt  gat att gcc      3654
Asn Gly  Trp Lys Phe Thr Thr  Phe Asp Arg Asp Ser  Asp Ile Ala
    1205                1210                1215

ctc agc  aac tgt gca ctg acg  cat cat ggt ggc tgg  tgg tat aag      3699
Leu Ser  Asn Cys Ala Leu Thr  His His Gly Gly Trp  Trp Tyr Lys
    1220                1225                1230

aac tgc  cat ttg gcc aac ccg  aat ggc aaa tat ggg  gag acc aag      3744
Asn Cys  His Leu Ala Asn Pro  Asn Gly Lys Tyr Gly  Glu Thr Lys
    1235                1240                1245

cac agc  gag ggg gtg aac tgg  gag cca tgg aag gga  cat gag ttc      3789
His Ser  Glu Gly Val Asn Trp  Glu Pro Trp Lys Gly  His Glu Phe
    1250                1255                1260

tcc att  cct tat gtg gag ctg  aaa atc cgc ccg ttt  ggt tac agc      3834
Ser Ile  Pro Tyr Val Glu Leu  Lys Ile Arg Pro Phe  Gly Tyr Ser
    1265                1270                1275

aga gac  cgt ttc tct ggc aga  aag aag cgc tcc ata  gga aaa gca      3879
Arg Asp  Arg Phe Ser Gly Arg  Lys Lys Arg Ser Ile  Gly Lys Ala
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agg atg  ttc tga                                               3891
Arg Met  Phe
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Cys Ser Asn Lys Glu Gln Gln Val Thr Val Ser His Thr Tyr Lys Ile
        35                  40                  45

Asp Val Pro Lys Ser Ala Leu Val Gln Val Glu Thr Asp Pro Gln Ser
    50                  55                  60

Leu Ser Asp Asp Gly Thr Ser Leu Leu Ala Pro Gly Glu Asp Gly Glu
65                  70                  75                  80

Glu Gln Asn Ile Ile Phe Arg His Asn Ile Arg Leu Gln Thr Pro Gln
                85                  90                  95

Lys Asn Cys Asp Leu Ala Asp Ser Val Gln Asp Leu Leu Ala Arg Met
            100                 105                 110

Lys Lys Leu Glu Glu Glu Met Ala Glu Leu Lys Glu Gln Cys Asn Thr
        115                 120                 125

Asn Arg Cys Cys Gln Gly Ala Ala Asp Leu Ser Arg His Cys Ser Gly
    130                 135                 140

His Gly Thr Phe Leu Pro Glu Thr Cys Ser Cys His Cys Asp Gln Gly
145                 150                 155                 160

Trp Glu Gly Ala Asp Cys Asp Gln Pro Thr Cys Pro Gly Ala Cys Asn
                165                 170                 175

Gly His Gly Arg Cys Val Asp Gly Gln Cys Val Cys Asp Ala Pro Tyr
            180                 185                 190

Val Gly Val Asp Cys Ala Tyr Ala Ala Cys Pro Gln Asp Cys Ser Gly
        195                 200                 205

His Gly Val Cys Val Gln Gly Val Cys Gln Cys His Glu Asp Phe Thr
    210                 215                 220

Ala Glu Asp Cys Ser Glu Gln Arg Cys Pro Gly Asp Cys Ser Gly Asn
225                 230                 235                 240

Gly Phe Cys Asp Thr Gly Glu Cys Tyr Cys Glu Met Gly Phe Thr Gly
                245                 250                 255

Pro Asp Cys Ser Gln Val Val Ala Pro Gln Gly Leu Gln Leu Leu Lys
            260                 265                 270

Ser Thr Glu Asn Ser Leu Leu Val Ser Trp Glu Pro Ser Ser Glu Val
        275                 280                 285

Asp Tyr Tyr Leu Leu Ser Tyr Tyr Pro Leu Gly Lys Glu Gln Ala Thr
    290                 295                 300

Lys Gln Val Arg Val Pro Lys Glu Gln His Thr Tyr Asp Ile Thr Gly
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Leu Leu Pro Gly Thr Lys Tyr Ile Val Thr Leu Arg Asn Val Lys Lys
                325                 330                 335
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Asp Ile Ser Ser Ser Pro Gln His Leu Leu Ala Thr Thr Asp Leu Ala
340 345 350

Val Leu Gly Thr Ala Trp Val Asn Glu Glu Thr Glu Thr Ser Leu Asp
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Val Glu Trp Glu Asn Pro Leu Thr Glu Val Asp Tyr Tyr Lys Leu Arg
370 375 380

Tyr Gly Pro Leu Thr Gly Gln Glu Val Thr Glu Val Thr Val Pro Lys
385 390 395 400

Ser Arg Asp Pro Lys Ser Arg Tyr Asp Ile Thr Gly Leu Gln Pro Gly
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Thr Glu Tyr Lys Ile Thr Val Val Pro Ile Arg Gly Asp Leu Glu Gly
420 425 430

Lys Pro Ile Leu Leu Asn Gly Arg Thr Glu Ile Asp Gly Pro Thr Asn
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Val Val Thr Asn Gln Val Thr Glu Asp Thr Ala Ser Val Ser Trp Asp
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Pro Val Arg Ala Asp Ile Asp Lys Tyr Val Val Arg Tyr Ile Ala Pro
465 470 475 480

Asp Gly Glu Thr Lys Glu Lys Ala Val Pro Lys Asp Gln Ser Ser Thr
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Val Leu Thr Gly Leu Lys Pro Gly Glu Ala Tyr Lys Val Phe Val Trp
500 505 510

Ala Glu Arg Gly Asn Gln Gly Ser Lys Lys Ala Asp Thr Lys Ala Leu
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Tyr Val Val Ser Tyr Thr Ser Val Asp Gly Glu Thr Lys Gln Val Pro
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Val Lys Lys Asp Gln Arg Ser Thr Val Leu Thr Gly Leu Ser Pro Gly
580 585 590

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Val Leu Thr Gly Leu Arg Pro Gly Val Glu Tyr Lys Val His Val Trp
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Thr Thr Leu Ser Val Ser Trp Asp Pro Val Glu Ala Asp Ile Asp Arg
725 730 735

Tyr Met Val Arg Tyr Thr Ser Pro Asp Gly Glu Thr Lys Glu Val Pro
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Val Glu Tyr Lys Val Asp Val Trp Ala Gln Lys Gly Ala Gln Asp Ser
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Arg Lys Ala Asn Thr Lys Ala Pro Thr Asp Ile Asp Ser Pro Lys Asn
785 790 795 800

Leu Val Thr Glu Gln Val Ala Glu Ser Thr Ala Thr Val Ser Trp Asp
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885 890 895

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Val Ser Lys Asp Gln Ser Asn Thr Ile Leu Thr Gly Leu Lys Pro Gly
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Met Glu Tyr Thr Ile His Val Trp Ala Gln Lys Gly Ala Arg Glu Ser
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Lys Lys Ala Asp Thr Lys Ala Leu Thr Glu Ile Asp Pro Pro Arg Asn
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Pro Pro Ser Ala Gln Ile Asp Gly Tyr Ile Leu Thr Tyr Gln Phe Pro
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Ile Tyr Leu Asn Gly Asp Ala Ser Arg Pro Met Gln Val Tyr Cys
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Asp Met Asp Thr Asp Gly Gly Gly Trp Ile Val Phe Gln Arg Arg
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Asn Thr Gly Gln Leu Asp Phe Phe Lys Arg Trp Arg Ser Tyr Val
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Glu Gly Phe Gly Asp Pro Met Lys Glu Phe Trp Leu Gly Leu Asp
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Lys Leu His Asn Leu Thr Thr Gly Thr Thr Thr Arg Tyr Glu Val
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Arg Ala Asp Leu Gln Thr Phe Asn Glu Ser Ala Tyr Ala Val Tyr
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Asp Phe Phe Gln Val Ala Ser Ser Lys Glu Arg Tyr Lys Leu Ser
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Asn Gly Trp Lys Phe Thr Thr Phe Asp Arg Asp Ser Asp Ile Ala
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Leu Ser Asn Cys Ala Leu Thr His His Gly Gly Trp Trp Tyr Lys
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His Ser Glu Gly Val Asn Trp Glu Pro Trp Lys Gly His Glu Phe
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Ser Ile Pro Tyr Val Glu Leu Lys Ile Arg Pro Phe Gly Tyr Ser
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1               5                  10                  15

gct tcg gcc cca gcc act ctg gag cct ccc ggc tgc agc aac aag gag       96
Ala Ser Ala Pro Ala Thr Leu Glu Pro Pro Gly Cys Ser Asn Lys Glu
            20                  25                  30

caa cag gtc act gtc agc cac acc tac aag atc gat gtg ccc aag tct      144
Gln Gln Val Thr Val Ser His Thr Tyr Lys Ile Asp Val Pro Lys Ser
        35                  40                  45

gcc ttg gtt cag gtt gac gct gac cct cag ccc ctc agt gac gat ggg      192
Ala Leu Val Gln Val Asp Ala Asp Pro Gln Pro Leu Ser Asp Asp Gly
    50                  55                  60

gct tcg ctc ttg gcc ctg ggg gag gcc agg gag gaa cag aac atc atc      240
Ala Ser Leu Leu Ala Leu Gly Glu Ala Arg Glu Glu Gln Asn Ile Ile
65                  70                  75                  80

ttc agg cac aac atc cgc ctt cag acg cca cag aag gac tgc gag ttg      288
Phe Arg His Asn Ile Arg Leu Gln Thr Pro Gln Lys Asp Cys Glu Leu
                85                  90                  95

gca ggc agt gtc cag gac ctc ctg gcc cgg gtg aag aag ctg gag gaa      336
Ala Gly Ser Val Gln Asp Leu Leu Ala Arg Val Lys Lys Leu Glu Glu
            100                 105                 110

gag atg gtg gag atg aag gaa cag tgt agt gcc cag cgc tgc tgc cag      384
Glu Met Val Glu Met Lys Glu Gln Cys Ser Ala Gln Arg Cys Cys Gln
        115                 120                 125

gga gtc act gat cta agc cgc cac tgc agc ggc cac ggg acc ttc tcc      432
Gly Val Thr Asp Leu Ser Arg His Cys Ser Gly His Gly Thr Phe Ser
    130                 135                 140

ctg gag acc tgc agc tgc cac tgc gaa gag ggc agg gag ggc ccc gcc      480
Leu Glu Thr Cys Ser Cys His Cys Glu Glu Gly Arg Glu Gly Pro Ala
145                 150                 155                 160
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tgc gag cgg ctg gcc tgc ccc ggg gcg tgc agc ggc cac ggg cgt tgc      528
Cys Glu Arg Leu Ala Cys Pro Gly Ala Cys Ser Gly His Gly Arg Cys
                165                 170                 175

gtg gac ggg cgc tgc ctg tgc cat gag ccc tac gtg ggt gcc gac tgc      576
Val Asp Gly Arg Cys Leu Cys His Glu Pro Tyr Val Gly Ala Asp Cys
            180                 185                 190

ggc tac ccg gcc tgc cct gag aac tgc agc gga cac ggc gag tgc gtg      624
Gly Tyr Pro Ala Cys Pro Glu Asn Cys Ser Gly His Gly Glu Cys Val
        195                 200                 205

cgc ggc gtg tgc cag tgc cac gaa gac ttc atg tcg gag gac tgc agc      672
Arg Gly Val Cys Gln Cys His Glu Asp Phe Met Ser Glu Asp Cys Ser
    210                 215                 220

gag aag cgc tgt ccc ggc gac tgc agc ggc cac ggc ttc tgt gac acg      720
Glu Lys Arg Cys Pro Gly Asp Cys Ser Gly His Gly Phe Cys Asp Thr
225                 230                 235                 240

ggc gag tgc tac tgc gag gag ggc ttc aca ggc ctg gac tgt gcc cag      768
Gly Glu Cys Tyr Cys Glu Glu Gly Phe Thr Gly Leu Asp Cys Ala Gln
                245                 250                 255

gtg gtc acc cca cag ggc ctg cag ctg ctc aag aac acg gag gat tct      816
Val Val Thr Pro Gln Gly Leu Gln Leu Leu Lys Asn Thr Glu Asp Ser
            260                 265                 270

ctg ctg gtg agc tgg gag ccc tcc agc cag gtg gat cac tac ctc ctc      864
Leu Leu Val Ser Trp Glu Pro Ser Ser Gln Val Asp His Tyr Leu Leu
        275                 280                 285

agc tac tac ccc ctg ggg aag gag ctc tct ggg aag cag atc caa gtg      912
Ser Tyr Tyr Pro Leu Gly Lys Glu Leu Ser Gly Lys Gln Ile Gln Val
    290                 295                 300

ccc aag gag cag cac agc tat gag att ctt ggt ttg ctg cct gga acc      960
Pro Lys Glu Gln His Ser Tyr Glu Ile Leu Gly Leu Leu Pro Gly Thr
305                 310                 315                 320

aag tac ata gtc acc ctg cgt aac gtc aag aat gaa gtt tct agc agc     1008
Lys Tyr Ile Val Thr Leu Arg Asn Val Lys Asn Glu Val Ser Ser Ser
                325                 330                 335

cca cag cat cta ctt gcc acc aca gac ctt gct gtg ctt ggc act gcc     1056
Pro Gln His Leu Leu Ala Thr Thr Asp Leu Ala Val Leu Gly Thr Ala
            340                 345                 350

tgg gtg aca gat gag act gag aac tcc ctt gac gtg gag tgg gaa aac     1104
Trp Val Thr Asp Glu Thr Glu Asn Ser Leu Asp Val Glu Trp Glu Asn
        355                 360                 365

ccc tca act gag gtg gac tac tac aag ctg cga tat ggc ccc atg aca     1152
Pro Ser Thr Glu Val Asp Tyr Tyr Lys Leu Arg Tyr Gly Pro Met Thr
    370                 375                 380

gga cag gag gta gct gag gtc act gtg ccc aag agc agt gac ccc aag     1200
Gly Gln Glu Val Ala Glu Val Thr Val Pro Lys Ser Ser Asp Pro Lys
385                 390                 395                 400

agc cga tat gac atc act ggt ctg cac ccg ggg act gag tat aag atc     1248
Ser Arg Tyr Asp Ile Thr Gly Leu His Pro Gly Thr Glu Tyr Lys Ile
                405                 410                 415
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acg gtg gtg ccc atg aga gga gag ctg gag ggc aag ccg atc ctc ctg      1296
Thr Val Val Pro Met Arg Gly Glu Leu Glu Gly Lys Pro Ile Leu Leu
            420                 425                 430

aat ggc agg aca gaa att gac agt cca acc aat gtt gtc act gat cga      1344
Asn Gly Arg Thr Glu Ile Asp Ser Pro Thr Asn Val Val Thr Asp Arg
        435                 440                 445

gtg act gaa gac aca gca act gtc tcc tgg gac cca gtg cag gct gtc      1392
Val Thr Glu Asp Thr Ala Thr Val Ser Trp Asp Pro Val Gln Ala Val
    450                 455                 460

ata gac aag tat gta gtg cgc tac act tct gct gat ggg gac acc aag      1440
Ile Asp Lys Tyr Val Val Arg Tyr Thr Ser Ala Asp Gly Asp Thr Lys
465                 470                 475                 480

gaa atg gca gtg cac aag gat gag agc agc act gtc ctg acg ggc ctg      1488
Glu Met Ala Val His Lys Asp Glu Ser Ser Thr Val Leu Thr Gly Leu
                485                 490                 495

aag cca gga gag gca tac aag gtc tac gtg tgg gct gaa agg ggc aac      1536
Lys Pro Gly Glu Ala Tyr Lys Val Tyr Val Trp Ala Glu Arg Gly Asn
            500                 505                 510

cag ggg agc aag aaa gct gac acc aat gcc ctc aca gaa att gac agc      1584
Gln Gly Ser Lys Lys Ala Asp Thr Asn Ala Leu Thr Glu Ile Asp Ser
        515                 520                 525

cca gca aac ctg gtg act gac cgg gtg act gag aat acc gcc acc atc      1632
Pro Ala Asn Leu Val Thr Asp Arg Val Thr Glu Asn Thr Ala Thr Ile
    530                 535                 540

tcc tgg gac ccg gta cag gcc acc att gac aag tac gtg gtg cgc tac      1680
Ser Trp Asp Pro Val Gln Ala Thr Ile Asp Lys Tyr Val Val Arg Tyr
545                 550                 555                 560

acc tct gct gac gac caa gag acc aga gag gtt ctg gtg ggg aag gag      1728
Thr Ser Ala Asp Asp Gln Glu Thr Arg Glu Val Leu Val Gly Lys Glu
                565                 570                 575

cag agc agc act gtc ctg aca ggc ctg agg cca ggt gtg gag tac aca      1776
Gln Ser Ser Thr Val Leu Thr Gly Leu Arg Pro Gly Val Glu Tyr Thr
            580                 585                 590

gtg cat gtc tgg gcc cag aag ggg gac cga gag agc aag aag gct gac      1824
Val His Val Trp Ala Gln Lys Gly Asp Arg Glu Ser Lys Lys Ala Asp
        595                 600                 605

acc aac gcc ccg aca gat att gac agc ccc aaa aac ctg gtg act gac      1872
Thr Asn Ala Pro Thr Asp Ile Asp Ser Pro Lys Asn Leu Val Thr Asp
    610                 615                 620

cgg gtg aca gag aat atg gcc acg gtc tcc tgg gac ccg gtg cag gcc      1920
Arg Val Thr Glu Asn Met Ala Thr Val Ser Trp Asp Pro Val Gln Ala
625                 630                 635                 640

gcc att gac aag tac gtg gtg cgc tac acc tct gct ggt gga gag acc      1968
Ala Ile Asp Lys Tyr Val Val Arg Tyr Thr Ser Ala Gly Gly Glu Thr
                645                 650                 655

agg gag gtt ccg gtg ggg aag gag cag agc agc aca gtc ctg aca ggc      2016
Arg Glu Val Pro Val Gly Lys Glu Gln Ser Ser Thr Val Leu Thr Gly
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660 665 670

ctg aga ccg ggt atg gag tac atg gtg cac gtg tgg gcc cag aag ggg 2064
Leu Arg Pro Gly Met Glu Tyr Met Val His Val Trp Ala Gln Lys Gly
675 680 685

gac cag gag agc aag aag gcc gac acc aag gcc cag aca gac att gac 2112
Asp Gln Glu Ser Lys Lys Ala Asp Thr Lys Ala Gln Thr Asp Ile Asp
690 695 700

agc ccc caa aac ctg gtg acc gac cgg gtg aca gag aat atg gcc act 2160
Ser Pro Gln Asn Leu Val Thr Asp Arg Val Thr Glu Asn Met Ala Thr
705 710 715 720

gtc tcc tgg gac ccg gtg cgg gcc acc att gac agg tat gtg gtg cgc 2208
Val Ser Trp Asp Pro Val Arg Ala Thr Ile Asp Arg Tyr Val Val Arg
725 730 735

tac acc tct gcc aag gac gga gag acc agg gag gtt ccg gtg ggg aag 2256
Tyr Thr Ser Ala Lys Asp Gly Glu Thr Arg Glu Val Pro Val Gly Lys
740 745 750

gag cag agt agc act gtc ctg acg ggc ctg agg ccg ggt gtg gag tac 2304
Glu Gln Ser Ser Thr Val Leu Thr Gly Leu Arg Pro Gly Val Glu Tyr
755 760 765

acg gtg cac gtg tgg gcc cag aag ggg gcc cag gag agc aag aag gct 2352
Thr Val His Val Trp Ala Gln Lys Gly Ala Gln Glu Ser Lys Lys Ala
770 775 780

gac acc aag gcc cag aca gac att gac agc ccc caa aac ctg gtc act 2400
Asp Thr Lys Ala Gln Thr Asp Ile Asp Ser Pro Gln Asn Leu Val Thr
785 790 795 800

gac tgg gtg aca gag aat aca gcc act gtc tcc tgg gac ccg gtg cag 2448
Asp Trp Val Thr Glu Asn Thr Ala Thr Val Ser Trp Asp Pro Val Gln
805 810 815

gcc acc att gac agg tat gtg gtg cac tac acg tct gcc aac gga gag 2496
Ala Thr Ile Asp Arg Tyr Val Val His Tyr Thr Ser Ala Asn Gly Glu
820 825 830

acc agg gag gtt cca gtg ggg aag gag cag agc agc act gtc ctg acg 2544
Thr Arg Glu Val Pro Val Gly Lys Glu Gln Ser Ser Thr Val Leu Thr
835 840 845

ggc ctg agg ccg ggc atg gag tac acg gtg cac gtg tgg gcc cag aag 2592
Gly Leu Arg Pro Gly Met Glu Tyr Thr Val His Val Trp Ala Gln Lys
850 855 860

ggg aac cag gag agc aag aag gct gac acc aag gcc cag aca gaa att 2640
Gly Asn Gln Glu Ser Lys Lys Ala Asp Thr Lys Ala Gln Thr Glu Ile
865 870 875 880

gac ggc ccc aaa aac cta gtg act gac tgg gtg acg gag aat atg gcc 2688
Asp Gly Pro Lys Asn Leu Val Thr Asp Trp Val Thr Glu Asn Met Ala
885 890 895

act gtc tcc tgg gac ccg gtt cag gcc acc att gac aag tac atg gtg 2736
Thr Val Ser Trp Asp Pro Val Gln Ala Thr Ile Asp Lys Tyr Met Val
900 905 910

cgc tac acc tct gct gac gga gag acc agg gag gtt ccg gtg ggg aag 2784

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Arg Tyr Thr Ser Ala Asp Gly Glu Thr Arg Glu Val Pro Val Gly Lys
        915                 920                 925

gag cac agc agc act gtc ctg acg ggc ctg aga cca ggc atg gag tac     2832
Glu His Ser Ser Thr Val Leu Thr Gly Leu Arg Pro Gly Met Glu Tyr
    930                 935                 940

atg gtg cac gtg tgg gcc cag aag ggg gcc cag gag agc aag aag gct     2880
Met Val His Val Trp Ala Gln Lys Gly Ala Gln Glu Ser Lys Lys Ala
945                 950                 955                 960

gac acc aag gcc cag aca gaa ctc gac cct ccc aga aac ctt cgt cca     2928
Asp Thr Lys Ala Gln Thr Glu Leu Asp Pro Pro Arg Asn Leu Arg Pro
                965                 970                 975

tct gct gta acg cag tct ggt ggc ata ttg acc tgg acg ccc ccc tct     2976
Ser Ala Val Thr Gln Ser Gly Gly Ile Leu Thr Trp Thr Pro Pro Ser
            980                 985                 990

gct cag atc cac ggc tac att ctg  act tac cag ttc cca  gat ggc aca   3024
Ala Gln Ile His Gly Tyr Ile Leu  Thr Tyr Gln Phe Pro  Asp Gly Thr
        995                 1000                1005

gtt aag  gag atg cag ctg gga  cgg gaa gac cag agg  ttt gcg ttg      3069
Val Lys  Glu Met Gln Leu Gly  Arg Glu Asp Gln Arg  Phe Ala Leu
    1010                1015                1020

caa ggc  ctt gag caa ggc gcc  acc tac cct gtc tcc  ctt gtt gcc      3114
Gln Gly  Leu Glu Gln Gly Ala  Thr Tyr Pro Val Ser  Leu Val Ala
    1025                1030                1035

ttt aag  ggt ggt cgc cgg agc  aga aat gta tcc acc  acc ctc tcc      3159
Phe Lys  Gly Gly Arg Arg Ser  Arg Asn Val Ser Thr  Thr Leu Ser
    1040                1045                1050

aca gtt  ggt gcc cgt ttc cca  cac cct tcg gac tgc  agt cag gtt      3204
Thr Val  Gly Ala Arg Phe Pro  His Pro Ser Asp Cys  Ser Gln Val
    1055                1060                1065

cag cag  aac agc aat gcc gcc  agt ggt ctg tac acc  atc tac ctg      3249
Gln Gln  Asn Ser Asn Ala Ala  Ser Gly Leu Tyr Thr  Ile Tyr Leu
    1070                1075                1080

cat ggc  gat gcc agc cgg ccc  ctg cag gtg tac tgt  gac atg gaa      3294
His Gly  Asp Ala Ser Arg Pro  Leu Gln Val Tyr Cys  Asp Met Glu
    1085                1090                1095

acg gac  gga ggt ggc tgg att  gtc ttc cag agg cgg  aac act ggg      3339
Thr Asp  Gly Gly Gly Trp Ile  Val Phe Gln Arg Arg  Asn Thr Gly
    1100                1105                1110

cag ctg  gat ttc ttc aag cga  tgg agg agc tat gtg  gaa ggc ttt      3384
Gln Leu  Asp Phe Phe Lys Arg  Trp Arg Ser Tyr Val  Glu Gly Phe
    1115                1120                1125

ggg gac  ccc atg aag gag ttc  tgg ctt gga ctt gac  aag cta cac      3429
Gly Asp  Pro Met Lys Glu Phe  Trp Leu Gly Leu Asp  Lys Leu His
    1130                1135                1140

aac ctc  acc acc ggc act cca  gcg cgg tat gag gtg  aga gtg gat      3474
Asn Leu  Thr Thr Gly Thr Pro  Ala Arg Tyr Glu Val  Arg Val Asp
    1145                1150                1155
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tta cag  act gcc aat gaa tct  gcc tat gct ata tat  gat ttc ttc      3519
Leu Gln  Thr Ala Asn Glu Ser  Ala Tyr Ala Ile Tyr  Asp Phe Phe
    1160                 1165                 1170

caa gtg  gcc tcc agc aag gag  cgg tat aag ctg aca  gtt ggg aaa      3564
Gln Val  Ala Ser Ser Lys Glu  Arg Tyr Lys Leu Thr  Val Gly Lys
    1175                 1180                 1185

tac aga  ggc acg gca ggg gat  gct ctt act tac cac  aat gga tgg      3609
Tyr Arg  Gly Thr Ala Gly Asp  Ala Leu Thr Tyr His  Asn Gly Trp
    1190                 1195                 1200

aag ttt  aca act ttt gac aga  gac aat gat atc gca  ctc agc aac      3654
Lys Phe  Thr Thr Phe Asp Arg  Asp Asn Asp Ile Ala  Leu Ser Asn
    1205                 1210                 1215

tgt gcc  ctg aca cat cat ggt  ggc tgg tgg tat aag  aac tgc cac      3699
Cys Ala  Leu Thr His His Gly  Gly Trp Trp Tyr Lys  Asn Cys His
    1220                 1225                 1230

ttg gcc  aac cct aat ggc aga  tat ggg gag acc aag  cac agt gag      3744
Leu Ala  Asn Pro Asn Gly Arg  Tyr Gly Glu Thr Lys  His Ser Glu
    1235                 1240                 1245

ggg gtg  aac tgg gag cct tgg  aaa gga cat gaa ttc  tcc att cct      3789
Gly Val  Asn Trp Glu Pro Trp  Lys Gly His Glu Phe  Ser Ile Pro
    1250                 1255                 1260

tac gtg  gag ttg aaa atc cgc  cct cat ggc tac agc  agg gag cct      3834
Tyr Val  Glu Leu Lys Ile Arg  Pro His Gly Tyr Ser  Arg Glu Pro
    1265                 1270                 1275

gtc ctg  ggc aga aag aag cgg  acg ctg aga gga agg  ctg cga acg      3879
Val Leu  Gly Arg Lys Lys Arg  Thr Leu Arg Gly Arg  Leu Arg Thr
    1280                 1285                 1290

ttc tga                                                          3885
Phe
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<210> 4

<211> 1294

<212> PRT

<213> homo sapiens

<400> 4

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Met Phe Arg Phe Pro Met Gly Leu Leu Leu Gly Ser Val Leu Leu Val
1               5                  10                  15

Ala Ser Ala Pro Ala Thr Leu Glu Pro Pro Gly Cys Ser Asn Lys Glu
            20                  25                  30

Gln Gln Val Thr Val Ser His Thr Tyr Lys Ile Asp Val Pro Lys Ser
        35                  40                  45

Ala Leu Val Gln Val Asp Ala Asp Pro Gln Pro Leu Ser Asp Asp Gly
    50                  55                  60
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Ala Ser Leu Leu Ala Leu Gly Glu Ala Arg Glu Glu Gln Asn Ile Ile
65 70 75 80

Phe Arg His Asn Ile Arg Leu Gln Thr Pro Gln Lys Asp Cys Glu Leu
85 90 95

Ala Gly Ser Val Gln Asp Leu Leu Ala Arg Val Lys Lys Leu Glu Glu
100 105 110

Glu Met Val Glu Met Lys Glu Gln Cys Ser Ala Gln Arg Cys Cys Gln
115 120 125

Gly Val Thr Asp Leu Ser Arg His Cys Ser Gly His Gly Thr Phe Ser
130 135 140

Leu Glu Thr Cys Ser Cys His Cys Glu Glu Gly Arg Glu Gly Pro Ala
145 150 155 160

Cys Glu Arg Leu Ala Cys Pro Gly Ala Cys Ser Gly His Gly Arg Cys
165 170 175

Val Asp Gly Arg Cys Leu Cys His Glu Pro Tyr Val Gly Ala Asp Cys
180 185 190

Gly Tyr Pro Ala Cys Pro Glu Asn Cys Ser Gly His Gly Glu Cys Val
195 200 205

Arg Gly Val Cys Gln Cys His Glu Asp Phe Met Ser Glu Asp Cys Ser
210 215 220

Glu Lys Arg Cys Pro Gly Asp Cys Ser Gly His Gly Phe Cys Asp Thr
225 230 235 240

Gly Glu Cys Tyr Cys Glu Glu Gly Phe Thr Gly Leu Asp Cys Ala Gln
245 250 255

Val Val Thr Pro Gln Gly Leu Gln Leu Leu Lys Asn Thr Glu Asp Ser
260 265 270

Leu Leu Val Ser Trp Glu Pro Ser Ser Gln Val Asp His Tyr Leu Leu
275 280 285

Ser Tyr Tyr Pro Leu Gly Lys Glu Leu Ser Gly Lys Gln Ile Gln Val
290 295 300

Pro Lys Glu Gln His Ser Tyr Glu Ile Leu Gly Leu Leu Pro Gly Thr
305 310 315 320

Lys Tyr Ile Val Thr Leu Arg Asn Val Lys Asn Glu Val Ser Ser Ser
325 330 335

Pro Gln His Leu Leu Ala Thr Thr Asp Leu Ala Val Leu Gly Thr Ala
340 345 350

Trp Val Thr Asp Glu Thr Glu Asn Ser Leu Asp Val Glu Trp Glu Asn
355 360 365

Pro Ser Thr Glu Val Asp Tyr Tyr Lys Leu Arg Tyr Gly Pro Met Thr
370 375 380

Gly Gln Glu Val Ala Glu Val Thr Val Pro Lys Ser Ser Asp Pro Lys
385 390 395 400

Ser Arg Tyr Asp Ile Thr Gly Leu His Pro Gly Thr Glu Tyr Lys Ile
405 410 415

Thr Val Val Pro Met Arg Gly Glu Leu Glu Gly Lys Pro Ile Leu Leu
420 425 430

Asn Gly Arg Thr Glu Ile Asp Ser Pro Thr Asn Val Val Thr Asp Arg
435 440 445

Val Thr Glu Asp Thr Ala Thr Val Ser Trp Asp Pro Val Gln Ala Val
450 455 460

Ile Asp Lys Tyr Val Val Arg Tyr Thr Ser Ala Asp Gly Asp Thr Lys
465 470 475 480

Glu Met Ala Val His Lys Asp Glu Ser Ser Thr Val Leu Thr Gly Leu
485 490 495

Lys Pro Gly Glu Ala Tyr Lys Val Tyr Val Trp Ala Glu Arg Gly Asn
500 505 510

Gln Gly Ser Lys Lys Ala Asp Thr Asn Ala Leu Thr Glu Ile Asp Ser
515 520 525

Pro Ala Asn Leu Val Thr Asp Arg Val Thr Glu Asn Thr Ala Thr Ile
530 535 540

Ser Trp Asp Pro Val Gln Ala Thr Ile Asp Lys Tyr Val Val Arg Tyr
545 550 555 560

Thr Ser Ala Asp Asp Gln Glu Thr Arg Glu Val Leu Val Gly Lys Glu
565 570 575

Gln Ser Ser Thr Val Leu Thr Gly Leu Arg Pro Gly Val Glu Tyr Thr
580 585 590

Val His Val Trp Ala Gln Lys Gly Asp Arg Glu Ser Lys Lys Ala Asp
595 600 605

Thr Asn Ala Pro Thr Asp Ile Asp Ser Pro Lys Asn Leu Val Thr Asp
610 615 620

Arg Val Thr Glu Asn Met Ala Thr Val Ser Trp Asp Pro Val Gln Ala
625 630 635 640

Ala Ile Asp Lys Tyr Val Val Arg Tyr Thr Ser Ala Gly Gly Glu Thr
645 650 655

Arg Glu Val Pro Val Gly Lys Glu Gln Ser Ser Thr Val Leu Thr Gly
660 665 670

Leu Arg Pro Gly Met Glu Tyr Met Val His Val Trp Ala Gln Lys Gly
675 680 685

Asp Gln Glu Ser Lys Lys Ala Asp Thr Lys Ala Gln Thr Asp Ile Asp
690 695 700

Ser Pro Gln Asn Leu Val Thr Asp Arg Val Thr Glu Asn Met Ala Thr
705 710 715 720

Val Ser Trp Asp Pro Val Arg Ala Thr Ile Asp Arg Tyr Val Val Arg

725 730 735

Tyr Thr Ser Ala Lys Asp Gly Glu Thr Arg Glu Val Pro Val Gly Lys
740 745 750

Glu Gln Ser Ser Thr Val Leu Thr Gly Leu Arg Pro Gly Val Glu Tyr
755 760 765

Thr Val His Val Trp Ala Gln Lys Gly Ala Gln Glu Ser Lys Lys Ala
770 775 780

Asp Thr Lys Ala Gln Thr Asp Ile Asp Ser Pro Gln Asn Leu Val Thr
785 790 795 800

Asp Trp Val Thr Glu Asn Thr Ala Thr Val Ser Trp Asp Pro Val Gln
805 810 815

Ala Thr Ile Asp Arg Tyr Val Val His Tyr Thr Ser Ala Asn Gly Glu
820 825 830

Thr Arg Glu Val Pro Val Gly Lys Glu Gln Ser Ser Thr Val Leu Thr
835 840 845

Gly Leu Arg Pro Gly Met Glu Tyr Thr Val His Val Trp Ala Gln Lys
850 855 860

Gly Asn Gln Glu Ser Lys Lys Ala Asp Thr Lys Ala Gln Thr Glu Ile
865 870 875 880

Asp Gly Pro Lys Asn Leu Val Thr Asp Trp Val Thr Glu Asn Met Ala
885 890 895

Thr Val Ser Trp Asp Pro Val Gln Ala Thr Ile Asp Lys Tyr Met Val
900 905 910

Arg Tyr Thr Ser Ala Asp Gly Glu Thr Arg Glu Val Pro Val Gly Lys
915 920 925

Glu His Ser Ser Thr Val Leu Thr Gly Leu Arg Pro Gly Met Glu Tyr
930 935 940

Met Val His Val Trp Ala Gln Lys Gly Ala Gln Glu Ser Lys Lys Ala
945 950 955 960

Asp Thr Lys Ala Gln Thr Glu Leu Asp Pro Pro Arg Asn Leu Arg Pro
965 970 975

Ser Ala Val Thr Gln Ser Gly Gly Ile Leu Thr Trp Thr Pro Pro Ser
980 985 990

Ala Gln Ile His Gly Tyr Ile Leu Thr Tyr Gln Phe Pro Asp Gly Thr
995 1000 1005

Val Lys Glu Met Gln Leu Gly Arg Glu Asp Gln Arg Phe Ala Leu
1010 1015 1020

Gln Gly Leu Glu Gln Gly Ala Thr Tyr Pro Val Ser Leu Val Ala
1025 1030 1035

Phe Lys Gly Gly Arg Arg Ser Arg Asn Val Ser Thr Thr Leu Ser
1040 1045 1050

Thr Val Gly Ala Arg Phe Pro His Pro Ser Asp Cys Ser Gln Val
1055 1060 1065

Gln Gln Asn Ser Asn Ala Ala Ser Gly Leu Tyr Thr Ile Tyr Leu
1070 1075 1080

His Gly Asp Ala Ser Arg Pro Leu Gln Val Tyr Cys Asp Met Glu
1085 1090 1095

Thr Asp Gly Gly Gly Trp Ile Val Phe Gln Arg Arg Asn Thr Gly
1100 1105 1110

Gln Leu Asp Phe Phe Lys Arg Trp Arg Ser Tyr Val Glu Gly Phe
1115 1120 1125

Gly Asp Pro Met Lys Glu Phe Trp Leu Gly Leu Asp Lys Leu His
1130 1135 1140

Asn Leu Thr Thr Gly Thr Pro Ala Arg Tyr Glu Val Arg Val Asp
1145 1150 1155

Leu Gln Thr Ala Asn Glu Ser Ala Tyr Ala Ile Tyr Asp Phe Phe
1160 1165 1170

Gln Val Ala Ser Ser Lys Glu Arg Tyr Lys Leu Thr Val Gly Lys
1175 1180 1185

Tyr Arg Gly Thr Ala Gly Asp Ala Leu Thr Tyr His Asn Gly Trp
1190 1195 1200

Lys Phe Thr Thr Phe Asp Arg Asp Asn Asp Ile Ala Leu Ser Asn
1205 1210 1215

Cys Ala Leu Thr His His Gly Gly Trp Trp Tyr Lys Asn Cys His
1220 1225 1230

Leu Ala Asn Pro Asn Gly Arg Tyr Gly Glu Thr Lys His Ser Glu
1235 1240 1245

Gly Val Asn Trp Glu Pro Trp Lys Gly His Glu Phe Ser Ile Pro
1250 1255 1260

Tyr Val Glu Leu Lys Ile Arg Pro His Gly Tyr Ser Arg Glu Pro
1265 1270 1275

Val Leu Gly Arg Lys Lys Arg Thr Leu Arg Gly Arg Leu Arg Thr
1280 1285 1290

Phe

<210> 5
<211> 25
<212> DNA

<213> homo sapiens

<400> 5
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<210> 6
<211> 27

<212> DNA

<213> homo sapiens

<400> 6
attgctgttc tgctgaacct gactgca 27

<210> 7
<211> 34

<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: oligonucleotide

<400> 7
atggatccag aaattgacgg ccccaaaaac ctag 34

<210> 8

<211> 33
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: oligonucleotide

<400> 8
ataagcttgt ggagagggtg gtggatacat ttc 33

<210> 9

<211> 24

<212> DNA

<213> Mus musculus

<400> 9
aggagatggt ggctgtattt tcgg 24

<210> 10
<211> 24
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: oligonucleotide

<400> 10
agcctcttgc tgagtggaga tgcc 24

<210> 11

<211> 30
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: oligonucleotide

<400> 11
tagaattcgg tcacctgatt ggtcactagg 30

<210> 12
<211> 22
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: oligonucleotide

<400> 12
ttatgatgtg ccagattatg cc 22

<210> 13
<211> 26
<212> DNA
<213> Mus musculus

<400> 13
ctcaaattga tggctacatt ttgacc 26

<210> 14
<211> 24

<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: oligonucleotide

<400> 14
aagccgacaa ccttgattgg agac 24

<210> 15

<211> 22
<212> DNA

<213> Mus musculus

<400> 15
taccagttcc caaatggcac cg 22

<210> 16
<211> 21

<212> DNA

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<220>
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